From:	Clarke, Kevin
To:	Tsiamis, Christos
Cc:	Sapienza, Vincent; Moriarty, Kenneth; Levine, Robin; Licata, Angela; Degueldre, Lindsay; King, Christopher; Robert Fox (RFox@mgkflaw.com); Carr, Brian; Kline, Gary E (DEC) (gary.kline@dec.ny.gov); Robert W. Schick, P.E (rxschick@gw.dec.state.ny.us); Taylor, Janice B.
Subject:	RE: Additional Data Request
Date:	Wednesday, December 16, 2015 5:25:15 PM
Attachments:	Rainfall and Tank Size Data 2002-2014 Addendum1-REQUEST_11Dec2015.xlsx

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Christos:

The attached excel workbook responds to your November 25th request for more specific information, or information presented in a different format, pertaining to rainfall data and CSO events at the Gowanus Canal. In accordance with your instructions, we have filled in the yellow-highlighted cells, provided calculations for the As-Built WWFP, provided calculations for the tank sizes at RH-034 and OH-007 that are shown in the table, and provided actual calculated Annual TSS % Reduction for each scenario for each year.

DEP's interpretation of each column and the conditions that were established in the collection system model to provide the results contained in the summary tables is summarized below. In addition, overarching assumptions regarding the model are provided for both your reference and convenience. Most of this information was previously provided to EPA in the "Gowanus Canal Baseline CSO Volume Modeling and CSO Tank Sizing" memo, dated March 20, 2015.

Ahead of preparing updated LTCPs, the previous collection system models underwent a major recalibration to better evaluate green infrastructure and other improvements. The majority of the recalibration focused on the hydrology (i.e., runoff) portion of the model, but other updates were made as described in "InfoWorks Citywide Recalibration Report, Updates to and Recalibration of October 2007 NYC Landside Models, June 2012", which was submitted to DEC. As part of the recalibration, the modeled surface imperviousness was updated with high resolution spatial imagery data, along with inclusion of nominal long-term sedimentation (post-cleaning) in the piping system, and monthly evaporation rates (versus average annual rate).

Other updates and changes are summarized below:

- Based on ongoing data evaluations related to climatological precipitation changes, representative typical precipitation year changed from 1988 to 2008, along with associated tide data
- Tide/boundary condition downstream of RH-034 outfall was corrected
- Projected future dry weather sewage flows were updated from 2045 projection to 2040 projection and include water conservation
    - The Red Hook WWTP projected annual average flow was reduced from 40 mgd to 28 mgd
    - The Owls Head WWTP projected annual average flow was reduced from 117 mgd to 85 mgd
- OH-007 tributary area pipe connectivity was updated and runoff parameters were validated with recent flow monitoring data
- OH-007 diversion structures were updated with recent field survey data
- Baseline volumes were updated to incorporate future planned high-level sewer separation (HLSS) in targeted areas upstream of RH-034 outfall
- Baseline volumes were updated to incorporate future planned green infrastructure

The annual CSO volume and activation frequency included under the "2014 Pre-WWFP" columns header in the attached workbook represent the model predicted CSO volume,

using the version of the model that includes the updates identified above.
The data presented under the "As Built WWFP" header represents the annual CSO volume and activation frequency after construction of the upgrade of the Gowanus Wastewater Pumping Station. The difference between the data in these columns and those included under the "2014 Pre-WWFP" columns is the impact associated with the pumping station upgrade.
The data presented under the "LTCP Baseline with GI" includes the impact of the Gowanus Pump Station upgrade, as well as City-wide Green Infrastructure and the High Level Sewer Separation (HLSS) work identified and presented in the LTCP.

Data included under each of the remaining column headers presents the remaining CSO volume associated with storage basins of different sizes. The calculated percent volume reduction (based on the 2014 Pre-WWFP volume) and percent reduction in solids loading are also included.

Please let me know if you have any further questions or comments,
Thank you,
Kevin

KEVIN CLARKE, P.E. | PORTFOLIO MANAGER | BEDC
NYC ENVIRONMENTAL PROTECTION | (O) 718 595 5995 | (C) 347 461 7400 | KCLARKE@DEP.NYC.GOV

From: Tsiamis, Christos [mailto:Tsiamis.Christos@epa.gov]
Sent: Wednesday, November 25, 2015 1:13 PM
To: Clarke, Kevin
Subject: Additional Data Request

Dear Kevin,

In the past we have asked for certain information pertaining to rainfall data and CSO events at the Gowanus Canal. Although you have responded to our request, we have not received exactly what we have asked for and/or the way that the data has been presented does not facilitate our review. Therefore, I will be more specific regarding the information and the format and I would greatly appreciate it if you could follow our instructions below and the attached spreadsheet to re-submit the requested data:

- Fill in the yellow-highlighted cells of the tables.
- Provide calculations for the As Built WWFP.
- Provide calculations for only the tank sizes shown in the table (RH-034 at 5.7 and 3.1 MG only, OH-007 at 2.5 MG and 1.4 MG only). Do not give calculations for changing tank volumes.
- Provide actual calculated Annual TSS %Reduction for each scenario for each year.

Please, submit the requested data by December 11, 2015.

Thank you very much and have a very Happy Thanksgiving!

Sincerely,

Christos Tsiamis
Senior Project Manager
New York Remedial Branch
USEPA, Region 2
290 Broadway, 20th Floor
New York, NY 10007

(212) 637-4257